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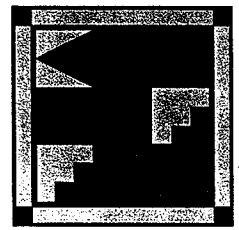
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**BENCHMARKS IN ADOLESCENT
SUBSTANCE ABUSE
PREVENTION PROGRAMS: A
REVIEW OF THE LITERATURE**

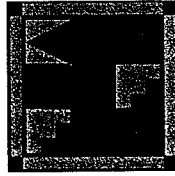
**Project Intern: Philip Mamalakis
Project Director: Shelley M. MacDermid**



**C E N T E R
for
F A M I L I E S
at
P U R D U E
U N I V E R S I T Y**

**Project EASE:
Evaluation Assistance
Services**

**A partnership with the
United Way of Greater
Lafayette
1998**



C E N T E R
for
F A M I L I E S

December 30, 1998

United Way Agency Directors
Greater Lafayette

As you might remember, The Center for Families at Purdue University and the United Way of Greater Lafayette embarked on a partnership during 1998 to provide assistance to local agencies regarding outcome-based evaluation.

There was strong interest across programs in the measurement of (1) Two indicators of individual functioning (self-esteem and stress); and (2) Two indicators of relationship functioning: (parenting skills and family functioning). There also was strong interest in state-of-the-art research about two different types of interventions: (1) Preventing and treating child abuse and neglect; and (2) Preventing and treating adolescent substance abuse.

Four graduate student interns worked during the summer and fall to compile reports dealing with each of the above topics, and I am pleased to submit copies of their reports for each agency to the United Way of Greater Lafayette.

Please note that appendices were compiled to accompany each report. Because of their length, only a single copy of each appendix was provided to the United Way, that agencies can share at their convenience.

We thank you for your input into this process, and hope that you find the results helpful.

Best wishes,

Shelley M. MacDermid
Associate Professor and Director
The Center for Families at Purdue University

Benchmarks in Adolescent Substance Abuse Prevention Programs: A Review of the Literature

Project EASe II
Summer 1998
Philip Mamalakis

INTRODUCTION

Within the field of adolescent substance abuse prevention there is little, if any, clear evidence of program effectiveness in reducing alcohol and other drug (AOD) use among youth. Traditionally, when evaluating the direct effects of prevention programs on AOD use among youth, finding 'no program effects' has been the rule rather than the exception (Johnson, Bryant, Strader, Bucholtz, Berbaum, Collins, & Noe, 1996). Some programs have demonstrated limited success in decreasing short-term substance use (1, 5)¹ and some have had success in limiting the increase in adolescent substance use over time (6, 10). Success, in research, is reported as either significant or not, based on a predetermined level for significance. A statistically significant improvement is either an increase in a positive variable, such as knowledge and beliefs about drugs or academic performance, or a decrease in an undesirable variable, such as drug use or delinquent behavior. An effective intervention, or program, is one which produces a significant change in the measured variables. The consensus in the literature is that there is no program or approach which has clearly proven to be effective in reducing adolescent long-term AOD use (5, 6). However, programs which are the most successful are the ones with a broad scope and which address a wide range of risk and resiliency factors.

SUMMARY

Several studies have found positive gains in short-term outcomes for AOD use with at-risk youth (1, 4, 5, 6). Although each of these programs developed different strategies, the common elements between the programs indicate that treatment approaches which produce positive gains in family functioning, and may postpone AOD use (1, 2, 4, 5, 6, 10), include:

- parenting skills training;
- communication skills training in youth and parents; and
- cognitive and affective skills training.

Although no programs have demonstrated effectiveness in changing long-term AOD use, programs which target both youth and parents have resulted in positive gains in:

- youth and parent drug communication (1, 6);
- family functioning (1, 6);
- parental and youth self-esteem (1);
- youth behavioral problems (2, 3, 5);
- academic performance (8); and
- peer drug influence (8).

¹ Numbers refer to the studies reviewed, summarized in Appendix A.

RISK AND RESILIENCY

Researchers have come to the understanding that drug use results from the interactions between the individual and the environment in a complex way (5). Programs which have many components and are comprehensive can achieve positive results (1, 4, 5). Researchers have realized that adolescent drug use is influenced by multiple risks, and interventions which reduce these risks hold promise for preventing youth problems (1). In addition, in an attempt to understand how some children do well despite overwhelming odds against them, researchers have focused on the characteristics and circumstances that protect children and foster resiliency (9). The research on adolescent AOD use has revealed a variety of these risk and resiliency factors (1, 6, 10). Recent research into substance abuse prevention has focused on the risk and resiliency factors as mediators or moderators of exposure to risk for youth AOD use and other problem behaviors. Programs have been developed, based on this research, which specifically aim at reducing risk factors and improving adolescent resiliency (5, 6, 7, 10).

“Risks are hazards in the individual or the environment that increase the likelihood of a problem occurring.” (Bogdenschneider & Olson, 1998, p. 3) Resiliency factors are characteristics of an individual which allow him/her to overcome problems. Risk and resiliency factors, although related, come from different kinds of studies and can be broken down into individual, family, peer, school, work, and community levels. There is not uniformity in the field on what specifically the risk and resiliency factors are. Different studies explore different factors. Table 1 lists some of the risk and resiliency factors explored in the studies included in this report.

Individual Risk Factors	Family Risk Factors	Peer Risk Factors	Community Risk Factors
Anti-social behavior, Social withdrawal Poor life skills Lack of knowledge/ beliefs about AOD use Teenage pregnancy Early AOD involvement	Parental passivity Parental drug/alcohol use Low parental involvement at home and school Emotional distance Decreased family rituals, management, cohesion Poverty, unemployment Disruption in family life Increased family conflict Low parental expectations	Peer drug use Peers with problem behaviors	Poor social support Urban environment- inadequate housing deteriorating neighborhood densely pop. neighborhood poor neighborhood Complacent/permissive laws Disruption in education- school transitions Low academic achievement and commitment Large High Schools
Indiv. Resiliency Factors	Family Resiliency	Peer Resiliency	Community Resiliency
High self-esteem and personal responsibility Well developed problem-solving skills and intellectual abilities Racial pride	Attachment to family Good relationship with at least one family member Parental involvement Drug-free role-modeling Positive coping, parenting and problem-solving skills	Good peer relationships At least one close friend	Attachment to religion Positive school experience Supportive community Bonding to social institutions

Table 1: Risk and resiliency factors

In some cases, risk and resiliency factors are the opposite side of the same coin. Poor parental involvement is a risk factor and parental involvement is a resiliency factor. This, however, is not always the case. Poverty is a risk factor, but wealth is not necessarily a protective factor. The field of substance abuse prevention has moved towards a framework of treating both risk and resiliency factors (5, 7). Interventions are targeted at these personal and environmental factors

which play an important role in how a youth behaves. Consequently, researchers have expanded what they measure, beyond simply drug use, to include risk and resiliency factors. Several programs based in schools and in community centers demonstrated positive gains with a variety of these factors (5, 6, 7, 8, 10). In addition, several studies have generated additional evidence on the relationship between these factors and AOD use among high-risk youth (6, 7).

Based on the existing research on substance abuse prevention, it is not reasonable to expect a program to demonstrate more than modest reductions in adolescent short-term alcohol and substance abuse. Programs which target the school setting and which address multiple risk and resiliency factors can expect positive results in academic performance. In addition, programs which target middle school students and include a personalized mentoring or counseling and tutoring component can expect to affect positive changes youths' attitudes towards school and community (9, 10). School programs which are broad-based, including changes at the institutional and curricular level and involve the staff can positively affect youths' attitudes towards school as well as their academic achievement. Programs do not need to be school-based to positively affect youths' attitudes towards school, however.

Programs which include parents and families of youth and are based in the school or community can positively influence several resiliency factors and consequently youth alcohol and drug use. Youth and parent self-esteem, problem solving skills, and feelings about the family are factors which can be influenced. In addition, programs which target parents can expect improved parenting behavior and coping skills.

Programs which include, but are not limited to, educational information on drug and alcohol knowledge and beliefs, and target parents as well as youth can expect a significant improvement in participants' knowledge and beliefs about AOD use.

It is reasonable to expect that school based programs which are broad-based can influence youths' and parents' bonding and consequently, delay onset of drug use and reduce the frequency of drug use short-term. In addition, a broad-based program which includes an educational component as well as activities for youth and families can result in decreases in delinquent behavior in youth. Programs which include a component specifically designed to build relationships between youth and others, including mentors, counselors and program staff, can result in positive outcomes in youth attitudes towards the community, school and family. Basically, programs with several intervention programs targeting those who interact with youth as well as the youth, and which are designed to target risk and resiliency factors can expect positive results in family functioning.

Research on risk and resiliency factors have shed light on a variety of factors which are responsive to intervention programs and influence adolescent AOD use. Programs which demonstrate positive gains in these and other risk and resiliency factors highlighted hold promise for affecting adolescent substance abuse. It is in this direction that substance abuse prevention has moved.

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- Gottfredson, D. C., Gottfredson, G. D., & Skroban, S. (1992). A multimodel school-based prevention demonstration, Journal of Adolescent Research, 11(1), 1996, 97-115.
- LoSciuto, L., Rajala, A. K., Townsend, T. A., & Taylor, A. S. (1996). An outcome evaluation of across ages: An intergenerational mentoring approach to drug prevention, Journal of Adolescent Research, 11(1), 116-129.
- Richards-Colocino, N., McKenzie, P., & Newton, R. R. (1996). Project Success: Comprehensive intervention services for middle school high-risk youth, Journal of Adolescent Research, 11(1), 130-163.
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- Springer, J.F, Phillips, J.L., Phillips, L., Cannady, L.P., & Kerst-Harris, E. (1992). CODA: A creative therapy program for children in families affected by abuse of alcohol of other drugs. Journal of Community Psychology, OSAP Special Issue, 55-76.

Appendix

The studies included in this report appendix represent the best evidence of positive effects of substance abuse prevention programs. Although there is variability in program design and outcome measures, each study represents different attempts at addressing prevention. The summaries are organized with a brief synopsis of the intervention including the outcomes, or factors targeted, and then the significant results are reported.

1. Bruce C., & Emshoff, J. (1992) The SUPER II program: An early intervention program
Journal of Community Psychology, OSAP Special Issue, 10-21.

Intervention strategy: High-risk youth and their parents attended seven 2-hour sessions that included educational, experiential, and skill-building activities to increase participants' knowledge of drugs, communication techniques, and parents' knowledge of how to talk to their children about drugs. The program sought to increase parent-child communication, youths' assertiveness and self-esteem, the esteem the parent had for the youth, resistance of the youth to use drugs, and family functioning.

Short term goals for youth included: knowledge of licit and illicit substances and their effects, knowledge of good communication, communication between youth and parents, assertiveness, resistance to peer pressure, and self esteem

Short term goals for parents: knowledge of licit and illicit substances and their effects, knowledge of the use of praise and punishment in child rearing, knowledge of how to talk to your child about drugs, knowledge of good communication, communication patterns between youth and parent, family functioning, and esteem of youth.

Programs surveyed established long-term outcomes as frequency of substance use, amount of substance use, physical effects of use, types of substance use modalities, and number of behavioral problems resulting from use.

Measurement instruments were compiled by the researchers, extracting items from several different instruments. Items were extracted from the Rosenberg Self-Esteem inventory, the Moos Family Environment Scale and Family Assessment Device (Epstein, Baldwin, and Bishop, 1983), the Barnes and Olson (1985) Parent-Adolescent Communication scale, the Ganbrill and Richey (1975) Assertion Inventory, and items for knowledge generated from the course material.

Results showed a statistically significant decrease in frequency of use, amount of use, and physical effects of use at the 3 month follow-up after program completion.

After the program, youth and parent drug and communication knowledge, family functioning, parental esteem for youth showed significant change among the outcome variables.

2. Springer, J.F, Phillips, J.L., Phillips, L., Cannady, L.P., & Kerst-Harris, E. (1992).
CODA: A creative therapy program for children in families affected by abuse of
alcohol of other drugs. Journal of Community Psychology, OSAP Special Issue, 55-
76.

Intervention strategy: CODA: Art therapy program for children and parents in families suffering from chemical dependency. The program is comprised of two simultaneous 12-week curricula: the peer group, and the family interaction group. Activities in the peer group are designed to assist children in recognizing and expressing feelings, in establishing trust in others, and in learning that they are not alone in their situation. The sessions involve cognitive and affective counseling through art and play activities. The family interaction group involves children and at least one parent in interactive sessions which utilize art, interactive play, and drama to establish trust, rejuvenate feelings and to open up communications between the child and adult caretaker. The program sought to increase participant competencies and decrease adolescent behavioral problems.

The Instrument used was the Child Behavior Checklist (Achenbach & Edelbrock, 1993) with a pre and post test at program beginning and completion.

As a group, all participants showed statistically significant gains in competencies and reduction in behavioral problems. By gender, only the girls' decrease in behavioral problems was statistically significant at the .05 level. Boys 6-11 did not demonstrate significance in either increased competencies or decreased behavioral problems, and girls' competencies did not increase significantly.

3. Friedman, A. S., & Utada, A. T. (1992). Effects of two group interaction models on substance-using adjudicated adolescent males. Journal of Community Psychology, OSAP Special Issue, 106-117.

This project compared the differential effects of two substance abuse preventive interventions provided over a 6-month period to a population of high-risk adolescents in a day-treatment facility. The Botvin Life Skills Training Model focused on producing changes in participants' social-interpersonal functioning through role plays and social reinforcement techniques. The second approach was a combination of an anti-violence model and a values clarification model. The anti-violence component uses social-cognitive procedures to assist participants in examining different situations, observing the participant's reactions to them, and considering ways to make intelligent and constructive decisions. The values clarification component involved a values clarification procedure that directs young participants to develop and adopt their own value system. Pretest was 2 weeks prior to program onset, and post test was 7 months after pretest, and six months after onset of treatment,

Program goals were to increase knowledge of harmful effects of substance use, improve attitudes towards substance use, reduce frequency and severity of substance use, and improve school behavior.

Measurement instruments were the Botvin LST assessment instrument which measured 22 preselected outcome measures, and the Adolescent Drug abuse Diagnosis to assess current patterns of functioning, administered as an interview.

Results: The Botvin variables which showed some improvement were: 'gotten in a fight while drunk or drinking', 'gotten into trouble with the police while drunk or drinking,' smoking knowledge and drinking knowledge, and negative attitudes towards marijuana use. The others did not.

The ADAD interview showed an increase in self-reported drug use from pretest to posttest. School problems, however, decreased, as did legal/delinquent behavior.

4. Schinke, S. P., Orlandi, M. A., & Cole, K. C. (1992) Boys and girls clubs in public housing developments: Prevention services for youth at risk, Journal of Community Psychology, OSAP Special Issue, 118-128.

This program compared housing development sites without Boys and Girls Clubs (BGC) with sites with both previously, and recently installed, Boys and Girls Clubs. The goal was to assess the influence of clubs on the structural and institutional level in preventing substance abuse. BGCs provide both formal and informal guidance and counseling. BGC staff monitor all club activities and take an active interest in members' lives by monitoring school attendance, reviewing report cards, and involving parents in participants' lives. In addition, new BGCs included SMART Moves, a drug prevention program on site targeting high-risk youth. SMART Moves is a community-oriented, rather than individualistic, program developed by BGC targeting the specific pressures and challenges preteen and adolescents face.

The measures used were developed specifically for this project and included: Records of informal support networks (semi-structured interviews), observed external supports (observed evidence of tangible support), perceptions and attitudes of parents, teachers, and local authorities, presence of crack and estimated rates of drug-related activity in housing development, parental involvement in BGC, incidence of juvenile criminal activity (gathered data from police on the level of criminal activity within a particular housing project., external signs of drug activity, graffiti, vandalism)

The significant results were: The presence of crack was significantly lower in sites with existing clubs versus those sites with new or nonexistent clubs. Drug activity within a site was lower for sites with clubs than without a club.

5. Battistich, V., Schaps, E., Watson, M., & Solomon, D. (1996). Prevention effects of the child development project: Early findings from an ongoing multisite demonstration trial. Journal of Adolescent Research, Vol. 11(1), 12-35.

The Child Development Project is an elementary school-based intervention program that seeks to establish a system that reduces risk factors and increases protective factors among children. The project involves all aspects of the school organization, with five instructional practices making up the core of the program. They are: cooperative learning activities, values-rich, literature-based language arts program, developmental discipline techniques, classroom and school community-building activities, and 'homeside' activities.

Assessment is through the use of questionnaires given in the spring, annually. The program assessed the level of drug use and level of involvement in a variety of delinquent behaviors.

The results indicate no significant difference in any delinquent behaviors between treatment and control group. Some difference in drug use over time was significant. Alcohol use declined significantly more in treatment schools than in control group. Marijuana use also declined in treatment schools, although not as significantly.

The article then broke down treatment groups onto three categories based on how well the program was implemented at the different sites. Those high on the implementation scale demonstrated more significant change compared to control groups in delinquent behavior and substance use. Overall, the program demonstrated modest, but reliable, reductions in delinquent behaviors and drug use.

6. Johnson, K., Bryant, D., Strader, T., Bucholtz, G., Berbaum, M., Collins, D., & Noe, T. (1996). Reducing alcohol and other drug use by strengthening community, family, and youth resiliency: An evaluation of the creating lasting connections program, Journal of Adolescent Research, 11(1) 1996, 36-67.

The Creating Lasting Connections program was designed to delay onset and reduce frequency of substance use by positively impacting resiliency factors in the church community, family, and individual. Major program components include: church community mobilization, parent/guardian training, youth training, early intervention services, and follow-up case management services. The program incorporated features of four basic prevention models: information, affective education, social competencies, and alternative activities for families. The program was composed of two components that incorporated system- and client-level program strategies, highlighting wellness, health promotion, and resiliency factors.

Outcome studies measured how well the program affected drug use onset and frequency as well as how well it affected the factors which moderate, or influence, adolescent drug use. In addition, the study showed how well the risk and resiliency factors influenced adolescent drug use. Measurement occurred before the start of the program, 6-7 months later, after parent and youth training, and after case management services were delivered one year after initiation. Measurement was a interview and questionnaire for the youth and typically the mother. Items were from Personal Experience inventory (PEI) and communication skills instruments

The program did not demonstrate any direct positive effects on AOD use among youth, but did find demonstrate positive effects on the factors which influence alcohol use. Participant families made more use of social services and took more action based on the service contact. There was an increase in short-term knowledge of AOD use for participants. Family management around the parents' involvement with the youth in AOD rule setting improved and communication between parents and youth improved.

The study showed that there was a significant community effect on reducing parents' alcohol use and increasing parents' communication with youth. Community involvement also had a positive effect on youth bonding with mothers. The program demonstrated that youth were open about their AOD use as parents decreased their own alcohol use. Parents' increased involvement in community and declining conflict with youth was shown to enhance the program's effect on youth being open about AOD use. Parents' improved communication with youth was shown to be related to youths' bonding with mother. Youths' bonding with siblings increased as family conflict decrease and as the likelihood for punishment for misconduct increased. This indicates that parents' translating the program's message about consequences into punishment had a deterring effect on program youth who had never used drugs or alcohol.

There was strong evidence to support the effects of family-level resiliency on AOD use among youth. As parents increased AOD knowledge and beliefs consistent with program, decreased conflict between parent and youth, and increase likelihood of punishment for youth AOD use, AOD use was delayed. There were short-term and sustained gains in reducing frequency of AOD use at 3- and 12-month intervals. The program produced a reduction in alcohol use as parents increased program advocated knowledge and beliefs, decreased their quantity of smoking tobacco products, and decreased their likelihood of punishing youth for misconduct. Other drug use decreased when parents increased youth involvement in non AOD rule setting, increased positive family communication, and increased their self-image. The program produced a reduction in the frequency of other drug use as parents involved their youth more in setting non-AOD family rules and decreased family pathology. Parents' increased likelihood of punishment was related to a delayed onset of drug use, but a decrease in punishment was related to reduced use in youth already using drugs or alcohol.

No youth factors had a positive influence on delaying onset of alcohol use, but several were shown to positively influence frequency of alcohol and drug use. The study found that the frequency of alcohol use was reduced as youth increased openness about schoolwork, and increased bonding with mother and as parents reported increased bonding with siblings and father.

7. Emshoff, J. A., Avery, E., Raduka, G., Anderson, D. J., & Calvert, C. (1992). Findings from SUPER STARS: A health promotion program for families to enhance multiple protective factors, *Journal of Adolescent Research*, 11(1) 68-96.

The SUPER STAR program consisted of nine, 2-hour sessions. Seven were held within a two-week period with the remaining two 'booster' sessions were one and three months later. The goals were to strengthen family bonding and functioning as well as enhance a sense of racial pride and cultural bonding.

Outcome evaluation consisted of a pretest questionnaire before session one. The posttest was after the 7th session and the follow-up was three months later. Measurement instruments were developed specifically for this project. Variables studied for youth were level of self-esteem, problem solving skills, family pride, cultural awareness, and racial pride. The long-term goal was to decrease substance use over a three-month period. For adults, the outcome variables were: Problem solving skills, knowledge of self-esteem, communication skills, coping skills, parenting behavior, family pride, family cohesion, family conflict resolution, family communication, racial pride.

The results, due to small sample size, indicated no statistically significant findings of effects of program on substance use. Pretest levels of substance use were too low to allow for statistical significance in the intervention. The program demonstrated a positive effect on the following factors for youth: Self-esteem, feelings about family, cultural awareness, and problem solving skills. For parents the following factors improved significantly: Conflict resolution, cohesion, parenting behavior, and racial pride, and coping skills.

8. Gottfredson, D. C., Gottfredson, G. D., & Skroban, S. (1992). A multimodel school-based prevention demonstration, *Journal of Adolescent Research*, 11(1), 1996, 97-115.

This school-based program targets high-risk middle school students and was aimed at academic achievement, social competency development, and social bonding. Intervention strategies were selected specifically for the different treatment groups and were modified during the course of the program. The ultimate goal was to reduce problem behaviors including tobacco, alcohol, and drug use by attaining five intermediary objectives: decrease intentions and definitions favorable to drug use; increase attachment to school and belief in conventional social rules; increase commitment to education and educational self efficacy expectations; increase school success; and increase resistance skills and self-regulation skills. The project included schoolwide curricular changes, instructional changes, changes to school norms aimed at all staff and students in the school, and changes targeting the 10% of the students in the school judged to be at the highest risk for drug involvement. Another middle school was used as a control group with a subset (10%) identified as high risk.

Outcome measures were taken from surveys once a year (What About You, G. D. Gottfredson & Gottfredson, 1992), teacher checklists once a year (Revised Behavior Problem Checklist, Quay & Peterson, 1987), and school archives at the end of each year.

Results indicated a positive effect of program on grade point average, and decrease in peer drug influence. There was no evidence that it had any effect on substance use, although peer drug influence did decrease in the target population.

9. LoSciuto, L., Rajala, A. K., Townsend, T. A., & Taylor, A. S. (1996). An outcome evaluation of Across Ages: An intergenerational mentoring approach to drug prevention, Journal of Adolescent Research, 11(1), 116-129.

The goal of Across Ages is to demonstrate the effectiveness of a comprehensive intergenerational mentoring approach to drug prevention designed to increase the resiliency and protective factors within middle school youth in five domains: individual, family, school, peer group, and the community. Older mentors (55+) help children develop the awareness, self-confidence, and skills necessary to resist drugs and overcome obstacles. In addition to mentoring, the program engages students in community service activities for elders, provides a classroom-based life-skills curriculum, and offers workshops to parents.

The study used a randomized pretest-posttest design with a control group and collected data at the beginning and end of every school year. Several instruments were used to measure reactions to situations involving drug use, reactions to stress or anxiety, self-perception, overall frequency of substance abuse, knowledge about older people, well-being, problem-solving efficacy, and knowledge about substance abuse.

Results indicated that students with mentors reported more positive attitudes toward school, their future, older people and toward community participation. The results demonstrated that interventions must address multiple domains in youths' lives and a combination of mentoring, community service, life-skills curriculum and parental involvement significantly enhances positive outcomes for high-risk youth. School attendance was positively correlated with participation in this program. Mentors who were actively involved promoted the most significant positive outcomes for high-risk youth. Youth with the more involved mentors missed fewer days of school.

10. Richards-Colocino, N., McKenzie, P., & Newton, R. R. (1996). Project Success: Comprehensive intervention services for middle school high-risk youth, Journal of Adolescent Research, 11(1), 130-163.

Project Success is a school-based early intervention program for middle school high-risk youth to reduce risk factors and increase resiliency across environmental domains. Subjects were high-risk with high levels of alcohol, tobacco, and other drugs (ATOD) use, low self-esteem, more absences, and lower grades than normative peers. Intervention strategies included counseling, tutoring, and community service for youth, periodic contact, counseling, and parent education for adults, and training in risk and resiliency strategies for school staff.

Subjects were recruited and then assessed with a number of instruments. Based on the assessment, students were placed in a number of different groups to work on different risk areas. Twenty-nine different types of interventions were used based on the risk assessment of each student. For 6-12 months, subjects participated in individual and group interventions, counseling, tutoring, and community service interventions with parents and contacts with school and community.

Outcome measures were evaluated in each of the four domains: individual, family, school and community. No significant differences in pretest to posttest assessment of drug use for any gender by grade level were found. The lack of significant increases in drug use from pre to post indicates that the program is holding the line against the increase in drug use expected between 7th and 8th grade. Academic performance based on the pretest and posttest assessment reveal a significant decrease in the number of Ds and Fs received for members of the treatment group compared to the control group. Finally, the results indicate that better student outcomes are produced by providing intervention services to students over a two-year period.

Appendix

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Intervention strategy: High-risk youth and their parents attended seven 2-hour sessions that included educational, experiential, and skill-building activities to increase participants' knowledge of drugs, communication techniques, and parents' knowledge of how to talk to their children about drugs. The program sought to increase parent-child communication, youths' assertiveness and self-esteem, the esteem the parent had for the youth, resistance of the youth to use drugs, and family functioning.

Short term goals for youth included: knowledge of licit and illicit substances and their effects, knowledge of good communication, communication between youth and parents, assertiveness, resistance to peer pressure, and self esteem

Short term goals for parents: knowledge of licit and illicit substances and their effects, knowledge of the use of praise and punishment in child rearing, knowledge of how to talk to your child about drugs, knowledge of good communication, communication patterns between youth and parent, family functioning, and esteem of youth.

Programs surveyed established long-term outcomes as frequency of substance use, amount of substance use , physical effects of use, types of substance use modalities, and number of behavioral problems resulting from use.

Measurement instruments were compiled by the researchers, extracting items from several different instruments. Items were extracted from the Rosenberg Self-Esteem inventory, the Moos Family Environment Scale and Family Assessment Device (Epstein, Baldwin, and Bishop, 1983), the Barnes and Olson (1985) Parent-Adolescent Communication scale, the Ganbrill and Richey (1975) Assertion Inventory, and items for knowledge generated from the course material.

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After the program, youth and parent drug and communication knowledge, family functioning, parental esteem for youth showed significant change among the outcome variables.

- 2. Springer, J.F, Phillips, J.L., Phillips, L., Cannady, L.P., & Kerst-Harris, E. (1992). CODA: A creative therapy program for children in families affected by abuse of alcohol of other drugs. Journal of Community Psychology, OSAP Special Issue, 55-76.**

Intervention strategy: CODA: Art therapy program for children and parents in families suffering from chemical dependency. The program is comprised of two simultaneous 12-week curricula: the peer group, and the family interaction group. Activities in the peer group are designed to assist children in recognizing and expressing feelings, in establishing trust in others, and in learning that they are not alone in their situation. The sessions involve cognitive and affective counseling through art and play activities. The family interaction group involves children and at least one parent in interactive sessions which utilize art, interactive play, and drama to establish trust, rejuvenate feelings and to open up communications between the child and adult caretaker. The program sought to increase participant competencies and decrease adolescent behavioral problems.

The Instrument used was the Child Behavior Checklist (Achenbach & Edelbrock, 1993) with a pre and post test at program beginning and completion.

As a group, all participants showed statistically significant gains in competencies and reduction in behavioral problems. By gender, only the girls' decrease in behavioral problems was statistically significant at the .05 level. Boys 6-11 did not demonstrate significance in either increased competencies or decreased behavioral problems, and girls' competencies did not increase significantly.

- 3. Friedman, A. S., & Utada, A. T. (1992). Effects of two group interaction models on substance-using adjudicated adolescent males. Journal of Community Psychology, OSAP Special Issue, 106-117.**

This project compared the differential effects of two substance abuse preventive interventions provided over a 6-month period to a population of high-risk adolescents in a day-treatment facility. The Botvin Life Skills Training Model focused on producing changes in participants' social-interpersonal functioning through role plays and social reinforcement techniques. The second approach was a combination of a anti-violence model and a values clarification model. The anti-violence component uses social-cognitive procedures to assist participants in examining different situations, observing the participant's reactions to them, and considering ways to make intelligent and constructive decisions. The values clarification component involved a values clarification procedure that directs young participants to develop and adopt their own value system. Pretest was 2 weeks prior to program onset, and post test was 7 months after pretest, and six months after onset of treatment,

Program goals were to increase knowledge of harmful effects of substance use, improve attitudes towards substance use, reduce frequency and severity of substance use, and improve school behavior.

Measurement instruments were the Botvin LST assessment instrument which measured 22 preselected outcome measures, and the Adolescent Drug abuse Diagnosis to assess current patterns of functioning, administered as an interview.

Results: The Botvin variables which showed some improvement were: 'gotten in a fight while drunk or drinking', 'gotten into trouble with the police while drunk or drinking,' smoking knowledge and drinking knowledge, and negative attitudes towards marijuana use. The others did not.

The ADAD interview showed an increase in self-reported drug use from pretest to posttest. School problems, however, decreased, as did legal/delinquent behavior.

4. Schinke, S. P., Orlandi, M. A., & Cole, K. C. (1992) Boys and girls clubs in public housing developments: Prevention services for youth at risk, Journal of Community Psychology, OSAP Special Issue, 118-128.

This program compared housing development sites without Boys and Girls Clubs (BGC) with sites with both previously, and recently installed, Boys and Girls Clubs. The goal was to assess the influence of clubs on the structural and institutional level in preventing substance abuse. BGCs provide both formal and informal guidance and counseling. BGC staff monitor all club activities and take an active interest in members' lives by monitoring school attendance, reviewing report cards, and involving parents in participants' lives. In addition, new BGCs included SMART Moves, a drug prevention program on site targeting high-risk youth. SMART Moves is a community-oriented, rather than individualistic, program developed by BGC targeting the specific pressures and challenges preteen and adolescents face.

The measures used were developed specifically for this project and included: Records of informal support networks (semi-structured interviews), observed external supports (observed evidence of tangible support), perceptions and attitudes of parents, teachers, and local authorities, presence of crack and estimated rates of drug-related activity in housing development, parental involvement in BGC, incidence of juvenile criminal activity (gathered data from police on the level of criminal activity within a particular housing project., external signs of drug activity, graffiti, vandalism)

The significant results were: The presence of crack was significantly lower in sites with existing clubs versus those sites with new or nonexistent clubs. Drug activity within a site was lower for sites with clubs than without a club.

5. Battistich, V., Schaps, E., Watson, M., & Solomon, D. (1996). Prevention effects of the child development project: Early findings from an ongoing multisite demonstration trial. Journal of Adolescent Research, Vol. 11(1), 12-35.

The Child Development Project is an elementary school-based intervention program that seeks to establish a system that reduces risk factors and increases protective factors among children. The project involves all aspects of the school organization, with five instructional practices making up the core of the program. They are: cooperative learning activities, values-rich, literature-based

language arts program, developmental discipline techniques, classroom and school community-building activities, and 'homeside' activities.

Assessment is through the use of questionnaires given in the spring, annually. The program assessed the level of drug use and level of involvement in a variety of delinquent behaviors.

The results indicate no significant difference in any delinquent behaviors between treatment and control group. Some difference in drug use over time was significant. Alcohol use declined significantly more in treatment schools than in control group. Marijuana use also declined in treatment schools, although not as significantly.

The article then broke down treatment groups onto three categories based on how well the program was implemented at the different sites. Those high on the implementation scale demonstrated more significant change compared to control groups in delinquent behavior and substance use. Overall, the program demonstrated modest, but reliable, reductions in delinquent behaviors and drug use.

6. Johnson, K., Bryant, D., Strader, T., Bucholtz, G., Berbaum, M., Collins, D., & Noe, T. (1996). Reducing alcohol and other drug use by strengthening community, family, and youth resiliency: An evaluation of the creating lasting connections program, *Journal of Adolescent Research*, 11(1) 1996, 36-67.

The Creating Lasting Connections program was designed to delay onset and reduce frequency of substance use by positively impacting resiliency factors in the church community, family, and individual. Major program components include: church community mobilization, parent/guardian training, youth training, early intervention services, and follow-up case management services. The program incorporated features of four basic prevention models: information, affective education, social competencies, and alternative activities for families. The program was composed of two components that incorporated system- and client-level program strategies, highlighting wellness, health promotion, and resiliency factors.

Outcome studies measured how well the program affected drug use onset and frequency as well as how well it affected the factors which moderate, or influence, adolescent drug use. In addition, the study showed how well the risk and resiliency factors influenced adolescent drug use. Measurement occurred before the start of the program, 6-7 months later, after parent and youth training, and after case management services were delivered one year after initiation. Measurement was a interview and questionnaire for the youth and typically the mother. Items were from Personal Experience inventory (PEI) and communication skills instruments

The program did not demonstrate any direct positive effects on AOD use among youth, but did find demonstrate positive effects on the factors which influence alcohol use. Participant families made more use of social services and took more action based on the service contact. There was an increase in short-term knowledge of AOD use for participants. Family management around the parents' involvement with the youth in AOD rule setting improved and communication between parents and youth improved.

The study showed that there was a significant community effect on reducing parents' alcohol use and increasing parents' communication with youth. Community involvement also had a positive effect on youth bonding with mothers. The program demonstrated that youth were open about their AOD use as parents decreased their own alcohol use. Parents' increased involvement in community and declining conflict with youth was shown to enhance the program's effect on youth being open about AOD use. Parents' improved communication with youth was shown to be related to youths' bonding with mother. Youths' bonding with siblings increased as family conflict decrease and as the likelihood for punishment for misconduct increased. This indicates that parents' translating the program's message about consequences into punishment had a deterring effect on program youth who had never used drugs or alcohol.

There was strong evidence to support the effects of family-level resiliency on AOD use among youth. As parents increased AOD knowledge and beliefs consistent with program, decreased conflict between parent and youth, and increase likelihood of punishment for youth AOD use, AOD use was delayed. There were short-term and sustained gains in reducing frequency of AOD use at 3- and 12-month intervals. The program produced a reduction in alcohol use as parents increased program advocated knowledge and beliefs, decreased their quantity of smoking tobacco products, and decreased their likelihood of punishing youth for misconduct. Other drug use decreased when parents increased youth involvement in non AOD rule setting, increased positive family communication, and increased their self-image. The program produced a reduction in the frequency of other drug use as parents involved their youth more in setting non-AOD family rules and decreased family pathology. Parents' increased likelihood of punishment was related to a delayed onset of drug use, but a decrease in punishment was related to reduced use in youth already using drugs or alcohol.

No youth factors had a positive influence on delaying onset of alcohol use, but several were shown to positively influence frequency of alcohol and drug use. The study found that the frequency of alcohol use was reduced as youth increased openness about schoolwork, and increased bonding with mother and as parents reported increased bonding with siblings and father.

7. Emshoff, J. A., Avery, E., Raduka, G., Anderson, D. J., & Calvert, C. (1992). Findings from SUPER STARS: A health promotion program for families to enhance multiple protective factors, *Journal of Adolescent Research*, 11(1) 68-96.

The SUPER STAR program consisted of nine, 2-hour sessions. Seven were held within a two-week period with the remaining two 'booster' sessions were one and three months later. The goals were to strengthen family bonding and functioning as well as enhance a sense of racial pride and cultural bonding.

Outcome evaluation consisted of a pretest questionnaire before session one. The posttest was after the 7th session and the follow-up was three months later. Measurement instruments were developed specifically for this project. Variables studied for youth were level of self-esteem, problem solving skills, family pride, cultural awareness, and racial pride. The long-term goal was to decrease substance use over a three-month period. For adults, the outcome variables were: Problem solving skills, knowledge of self-esteem, communication skills, coping skills, parenting

behavior, family pride, family cohesion, family conflict resolution, family communication, racial pride.

The results, due to small sample size, indicated no statistically significant findings of effects of program on substance use. Pretest levels of substance use were too low to allow for statistical significance in the intervention. The program demonstrated a positive effect on the following factors for youth: Self-esteem, feelings about family, cultural awareness, and problem solving skills. For parents the following factors improved significantly: Conflict resolution, cohesion, parenting behavior, and racial pride, and coping skills.

8. Gottfredson, D. C., Gottfredson, G. D., & Skroban, S. (1992). A multimodel school-based prevention demonstration, Journal of Adolescent Research, 11(1), 1996, 97-115.

This school-based program targets high-risk middle school students and was aimed at academic achievement, social competency development, and social bonding. Intervention strategies were selected specifically for the different treatment groups and were modified during the course of the program. The ultimate goal was to reduce problem behaviors including tobacco, alcohol, and drug use by attaining five intermediary objectives: decrease intentions and definitions favorable to drug use; increase attachment to school and belief in conventional social rules; increase commitment to education and educational self efficacy expectations; increase school success; and increase resistance skills and self-regulation skills. The project included schoolwide curricular changes, instructional changes, changes to school norms aimed at all staff and students in the school, and changes targeting the 10% of the students in the school judged to be at the highest risk for drug involvement. Another middle school was used as a control group with a subset (10%) identified as high risk.

Outcome measures were taken from surveys once a year (What About You, G. D. Gottfredson & Gottfredson, 1992), teacher checklists once a year (Revised Behavior Problem Checklist, Quay & Peterson, 1987), and school archives at the end of each year.

Results indicated a positive effect of program on grade point average, and decrease in peer drug influence. There was no evidence that it had any effect on substance use, although peer drug influence did decrease in the target population.

9. LoSciuto, L., Rajala, A. K., Townsend, T. A., & Taylor, A. S. (1996). An outcome evaluation of Across Ages: An intergenerational mentoring approach to drug prevention, Journal of Adolescent Research, 11(1), 116-129.

The goal of Across Ages is to demonstrate the effectiveness of a comprehensive intergenerational mentoring approach to drug prevention designed to increase the resiliency and protective factors within middle school youth in five domains: individual, family, school, peer group, and the community. Older mentors (55+) help children develop the awareness, self-confidence, and skills necessary to resist drugs and overcome obstacles. In addition to mentoring, the program engages students in community service activities for elders, provides a classroom-based life-skills curriculum, and offers workshops to parents.

The study used a randomized pretest-posttest design with a control group and collected data at the beginning and end of every school year. Several instruments were used to measure reactions to situations involving drug use, reactions to stress or anxiety, self-perception, overall frequency of substance abuse, knowledge about older people, well-being, problem-solving efficacy, and knowledge about substance abuse.

Results indicated that students with mentors reported more positive attitudes toward school, their future, older people and toward community participation. The results demonstrated that interventions must address multiple domains in youths' lives and a combination of mentoring, community service, life-skills curriculum and parental involvement significantly enhances positive outcomes for high-risk youth. School attendance was positively correlated with participation in this program. Mentors who were actively involved promoted the most significant positive outcomes for high-risk youth. Youth with the more involved mentors missed fewer days of school.

10. Richards-Colocino, N., McKenzie, P., & Newton, R. R. (1996). Project Success: Comprehensive intervention services for middle school high-risk youth, Journal of Adolescent Research, 11(1), 130-163.

Project Success is a school-based early intervention program for middle school high-risk youth to reduce risk factors and increase resiliency across environmental domains. Subjects were high-risk with high levels of alcohol, tobacco, and other drugs (ATOD) use, low self-esteem, more absences, and lower grades than normative peers. Intervention strategies included counseling, tutoring, and community service for youth, periodic contact, counseling, and parent education for adults, and training in risk and resiliency strategies for school staff.

Subjects were recruited and then assessed with a number of instruments. Based on the assessment, students were placed in a number of different groups to work on different risk areas. Twenty-nine different types of interventions were used based on the risk assessment of each student. For 6-12 months, subjects participated in individual and group interventions, counseling, tutoring, and community service interventions with parents and contacts with school and community.

Outcome measures were evaluated in each of the four domains: individual, family, school and community. No significant differences in pretest to posttest assessment of drug use for any gender by grade level were found. The lack of significant increases in drug use from pre to post indicates that the program is holding the line against the increase in drug use expected between 7th and 8th grade. Academic performance based on the pretest and posttest assessment reveal a significant decrease in the number of Ds and Fs received for members of the treatment group compared to the control group. Finally, the results indicate that better student outcomes are produced by providing intervention services to students over a two-year period.

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